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ABSTRACT

A study was conducted to analyze the impact of employee illiteracy on Canadian businesses. The opinions of 626 vice presidents of human resources or general managers were collected in a random sample of 2,000 Canadian establishments with more than 50 employees and 300 head offices of larger firms (25 percent return). The information was supplemented by a series of 13 case studies and a round table of literacy experts. Some of the principal findings of the study were as follows: (1) 70 percent of the 626 surveyed companies feel that they have a significant problem with functional illiteracy; (2) 26 percent of employers responding report that illiteracy has slowed down the introduction of new technology, and 34 percent report that it impedes training; (3) 27 percent of reporting companies indicate that product quality is adversely affected by illiteracy in the work force; (4) 40 percent of companies see the effects of illiteracy in errors in inputs and processes in production; (5) problems with functionally illiterate workers arise in all regions of the country and in all economic sectors; and (6) the industrial sector with the most acute problems of functional illiteracy is the restaurant, accommodation, and hospitality sector. The study concluded that Canadian business is conscious of illiteracy in the workplace and that many companies have been moving to deal with it. However, increasingly complex workplace requirements in the future will necessitate changes in education to ensure literacy and the nation's competitiveness. (15 charts/tables) (KC)

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Human Resource
Development Centre

The Impact of Employee Illiteracy on Canadian Business

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©1990 The Conference Board of Canada*
255 Smyth Road
Ottawa, Ontario K1H 8M7
Telephone: (613) 526-3280
Fax: (613) 526-4857

The Conference Board, Inc.
845 Third Avenue
New York, N.Y.
10022 U.S.A.
Telephone: (212) 759-0900
Fax: (212) 980-7014

The Conference Board, Inc.
European Office
Avenue Louise, 207–Bte 5
B–1050 Brussels, Belgium
Telephone: (02) 640 62 40
Fax: (02) 640 67 35

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About the Human Resource Development Centre

The Human Resource Development Centre is a separately funded division of The Conference Board of Canada undertaking research in human resource management and executive development. Its mission is to improve the strategic and competitive position of member organizations by facilitating the adoption of effective management and leadership practices.

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The Impact of Employee Illiteracy on Canadian Business

by Robert C. DesLauriers

A Conference Board of Canada Report
from the Human Resource Development Centre

Report 58-90-E August 1990

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Preface

Over the last decade, Canadians have become increasingly aware of the extent of illiteracy in the adult population of the country, and concern is growing over the impact it is having on our international competitiveness.

This report looks at the extent of illiteracy among the employed workforce and analyses the impact of these literacy deficits on business performance. It represents the culmination of a comprehensive research effort, including a major survey, interviews and case studies.

The research project on literacy is part of the Conference Board's focus on business–education linkages and has been made possible through a generous contribution by the National Literacy Secretariat of the Ministry of the Secretary of State.

The research was carried out by Robert DesLauriers, Principal Research Associate in the Human Resource Development Centre. It was done under the direction of Peter Larson, the Centre's director, and profited from the guidance of Mark Daniel, Vice-President, Management Functions Research. Throughout the project, David McIntyre, Research Associate, provided valuable support and assistance.

James R. Nininger
President
The Conference Board of Canada July 1990

Author's Acknowledgements

The author acknowledges the time and effort provided by over 600 human resource executives, general managers of operations, training and development managers and others in private and public organizations throughout Canada. Their contribution to the survey and participation in interviews and discussions made this study possible.

I would specifically like to thank the 13 organizations that gave generously of their time to serve as case studies.

The participating companies are:

British Columbia Telephone Company
BP Canada Inc.
SCRL Électrique Ltée.
City of Calgary
Tiger Brand Knitting Co. Ltd.
Budd Canada Inc.
General Motors of Canada Ltd.
Campbell Soup Company Ltd.
Château Laurier Hotel
Brunswick Mining and Smelting Corporation Ltd.
Fishery Products International
Abitibi-Price Inc.
Group Pâtisserie Confiserie Culinar, Inc.

I would also like to thank Kenneth Hart of Investment Canada, who provided valuable analysis and insights. In addition, he developed the original literacy survey questionnaire while still a principal researcher at the Conference Board.

The time made available by Paul Jones, president of the Canadian Business Task Force on Literacy and associate publisher of Macleans magazine, is greatly appreciated.

I would also like to express my appreciation to the staff of the National Literacy Secretariat of the Department of the Secretary of State of Canada for their assistance and, in particular, to David Neice, Richard Nolan, Tom Brecher, Cathy Chapman and Sandra MacDonald for their helpful comments and suggestions throughout the study.

The assistance provided by the staff of the Management Research Functions Department of the Conference Board is also acknowledged. The contribution of Peter Larson, Director, Human Resource Development Centre, and indeed his encouragement throughout the entire study, is greatly appreciated. I also wish to thank Mark Daniel, Vice-President, Management Functions Research, for his comments on the draft of the report. Throughout the project, I received valuable assistance from David McIntyre, Research Associate. As part of the study team, he was extensively involved in survey preparations, in editing and coding survey returns, and in the preparation of documents and material for speaking engagements. Navin Parekh, Senior Partner, Training and Development Associates, also provided valuable assistance in gathering case study material and in convening the June 1990 round table.

Finally, I would like to thank Laurie Bowes for editing, Jocelyne Lavigne for revision, Ruth Kirkpatrick for design and chart layout and the staff of the Text Processing Centre.

Executive Summary

Canada has many natural competitive advantages in the world economy. Our abundance of raw materials, our highly developed infrastructure and our sophisticated educational system have helped to make Canada one of the world's most successful nations. In fact, these strengths were cited jointly by the World Economic Forum and the International Institute for Management Development[1], when they recently rated Canada as the world's fifth most competitive nation.

Nonetheless, our current enviable competitive position is not guaranteed. Many Canadian business leaders are concerned about our continued ability to compete against the U.S., Japan and Germany or even against relative newcomers like Korea and Taiwan.

From a business point of view, evidence is gradually building that some of our former strengths could become significant weaknesses unless corrective measures are undertaken. One area of special concern is the ability of our educational system to produce graduates with the skills necessary to help Canadian business remain competitive.

Several studies over the last few years have indicated a high degree of illiteracy in the Canadian population, including those who have finished high school. In addition, many companies are finding that the difficulties their employees have in reading and writing are becoming a serious liability in an era of rapid change and technological advancement.

The objective of the current study was to analyse the impact of employee illiteracy on Canadian businesses. The opinions of 626 vice-presidents of human resources or general managers were collected in a random sample of 2,000 Canadian establishments with over 50 employees. This information was supplemented by a series of 13 case studies and a round table of literacy experts.

[1] "Canada's Competitiveness Slips" (*Globe & Mail*, June 20, 1990).

The study's principal findings are:

- Almost three-quarters (70 per cent) of the 626 surveyed companies feel that they have a significant problem with functional illiteracy in some part of their organization.
- Twenty-six per cent of employers report that illiteracy has slowed down the introduction of new technology, and 34 per cent report that it impedes training and the acquisition of new skills.
- Twenty-seven per cent of reporting companies indicate that product quality is adversely affected by illiteracy in the workforce.
- Forty per cent of companies see the effects of illiteracy in errors in inputs and processes in production.
- Thirty-two per cent of companies feel they can associate some productivity losses with literacy deficits in their organizations.
- Other associated problems are health and safety, absenteeism and difficulties in reassignment of staff.
- Problems with functionally illiterate workers arise in all regions of the country and in all economic sectors.
- The industrial sector with the most acute problems of functional illiteracy is the restaurant, accommodation and hospitality sector. The sector reporting the fewest problems was the financial sector.
- Problems with illiteracy often come to light only as a by-product of some other change in the workplace, such as the introduction of new technology.
- It is not necessary to wait until illiteracy poses an operational problem to treat it. A variety of programs are available to tackle illiteracy in the workplace before it becomes a major operational problem. Examples of human resource policies dealing with the literacy issue include the Basic Education for Skills Training program (BEST) and the Principle of the Alphabet Literacy System (PALS).

About This Report

This report is the result of an 18-month research project on literacy carried out by The Conference Board of Canada in co-operation with the National Literacy Secretariat of the Secretary of State of Canada.

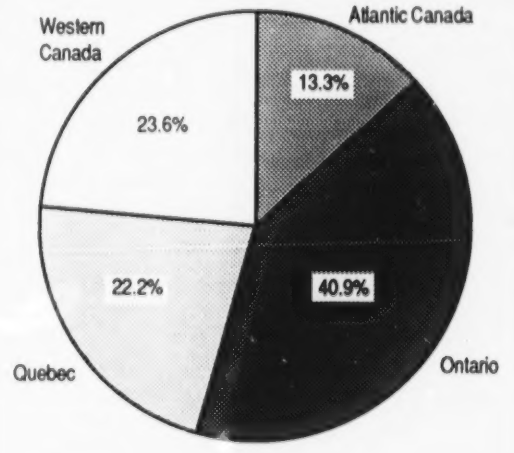
The project was initiated as a result of the outcome of a feasibility study that was carried out in the spring of 1989. The feasibility study showed a growing concern about illiteracy among human resource executives and indicated that more concrete information on the impact of functional illiteracy on Canadian business would be useful.

The objective of the report is to generate a better understanding of the impact of literacy on Canadian productivity and competitiveness.

The study design provided for data to be gathered from three sources:

- a questionnaire mailed to a random sample of over 2,000 Canadian business establishments employing more than 50 people;
- a second questionnaire to a smaller sample of 300 head offices of larger firms; and
- case studies of 13 companies that had adopted specific policies and programs to deal with illiteracy in the workplace.

Chart 1
Location of Respondents by Major Geographic Region



Source: The Conference Board of Canada.

Questionnaires were directed to the vice-president of human resources or the general manager, as appropriate. Usable returns were received from 626 firms (a 24.7 per cent response rate). Combined employment of the responding firms was 771,000 (see Charts 1, 2 and 3 for a breakdown of respondents by region, industry and revenue).

For the purposes of this questionnaire, functional literacy was defined as:

> The ability to read, write and perform basic math at a level which enables an individual to function independently in the community, including carrying out work responsibilities and undertaking operational training in a satisfactory manner.[1]

Respondents were asked to estimate the extent of illiteracy among employees in their organization, the characteristics of those employees, and the impact any skills deficits were having on organizational objectives. They were also asked to describe what measures, if any, they were taking to deal with it.

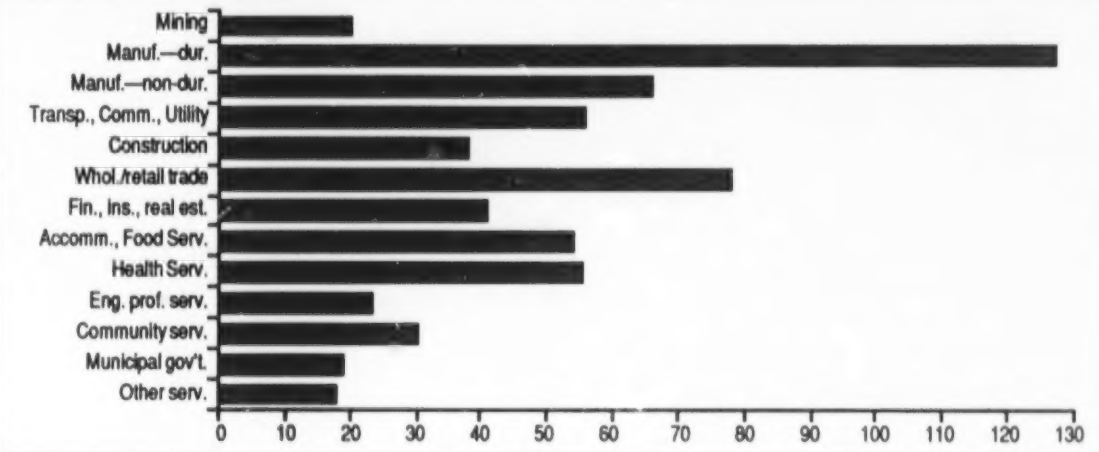
The survey results were analysed and interpreted with the help of follow-up telephone interviews with many senior human resource executives. Information gathered in the survey and telephone interviews identified specific companies for in-depth investigation as case studies.

Finally, a one-day round table bringing together representatives of business, labour, education and government was convened in the spring of 1990 to discuss the results of the literacy survey. The proceedings of that round table will be issued as a separate report.

This report details, for the first time, the extent of the literacy problem in Canadian business as viewed by those responsible for developing the human resource policies to deal with it.

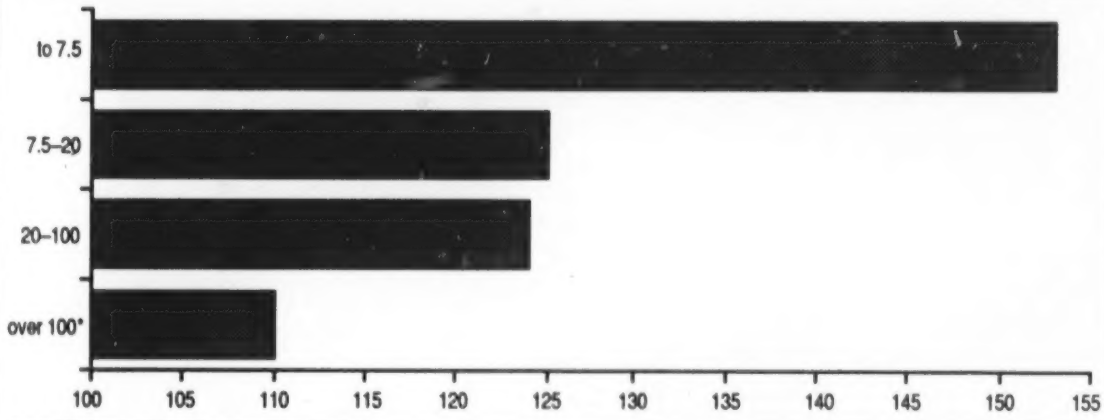
[1] The definition of literacy used in this study corresponds to what literacy specialists and educators would call *functional literacy skills*. Literacy specialists and educators make a clear distinction between *basic literacy skills*, such as the ability to read one's own name, and functional literacy skills, which are of a higher order. In the business world, however, these same skills are commonly referred to as *basic skills*. Hence, in our survey questionnaire we deliberately chose the title "Basic Employee Skills in Canadian Business" to ensure as wide an understanding as possible. Throughout the report, the terms *basic skills* and *functional literacy* are used interchangeably.

Chart 2
Number of Respondents by Industrial Classification



Source: The Conference Board of Canada.

Chart 3
Number of Respondents by Annual Total Sales/Service Revenue
($ millions)



*Of the establishments with reported sales of over $100 million, 42 reported sales of over $500 million.
Source: The Conference Board of Canada.

1 Background

In 1987 Southam News released the results of a survey that showed a shocking level of illiteracy among adult Canadians.[1] According to the Southam study, 4.5 million Canadians, or one adult in every four, could not read or write at a level that would allow them to carry out normal daily tasks.

This news was followed up the next year by a second study, done this time by Woods Gordon for the Canadian Business Task Force on Literacy.[2] Its findings were equally disturbing: lack of functional literacy was costing Canadian business $4 billion annually in lost productivity. It further estimated the total social cost to Canadian society to be more than double that figure.

The response to these studies was varied. Literacy advocacy groups saw evidence of what they had been saying for some time—that illiteracy was a significant problem in Canada and was not receiving the attention it deserved. On the other hand, various business groups were somewhat skeptical. They did not see the evidence of illiteracy in their workforce and wondered if there had been some error in sampling technique or some exaggeration of the problem.

As a result of this skepticism, several organizations have undertaken further research on the extent of illiteracy in Canada and its consequences for the country. In preparation for International Literacy Year, the government of Canada undertook in 1989 the most comprehensive survey of literacy skills ever performed in Canada.[3] The survey was based on more than 9,500 household interviews, in which adult Canadians were asked to attempt to solve simple problems involving the ability to read, write and perform simple math.

The survey, which was conducted by Statistics Canada for the National Literacy Secretariat of the Secretary of State, represented a susbstantial advance over the earlier Southam study, because it developed a methodology for classifying respondents into four literacy levels. In fact, the methodology used is now being looked at as a model by other member countries of the Organization for Economic Co-operation and Development (OECD).

Preliminary results from this survey, released in May 1990, confirmed that illiteracy is widespread. More importantly, it showed that while 7 per cent of Canadians do not have the ability to read at all, an even larger problem lies in the 31 per cent who can read but who have a limited capacity to absorb and analyse information from written material. The implications for Canadian business, which draws its workforce from the general labour pool, are clear. Even if careful recruitment criteria screen out most of those unable to read and write at all, many of those in the workforce will come from the large group with serious literacy deficits.

At the same time as the government of Canada survey was getting under way, the Conference Board undertook a pilot study of a small number of Canadian companies to determine the extent to which lack of basic literacy skills seemed to present a problem to Canadian industry. The response from industry representatives indicated that there was enough concern about the extent and impact of illiteracy on Canadian business to warrant further study. As a result, The Conference Board of Canada, in co-operation with the National Literacy Secretariat, undertook this comprehensive study of the impact of illiteracy on the productivity and competitiveness of Canadian business.

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1 Peter Calamai, *Broken Words: A Special Southam Survey* (Toronto: Southam Newspaper Group, 1987).

2 Canadian Business Task Force on Literacy, *Measuring the Costs of Illiteracy in Canada* (Toronto: Woods Gordon, 1988).

3 Statistics Canada, *Survey of Literacy Skills Used in Daily Activities (LSUDA), Preliminary Results*, cat. #1-001E (Ottawa: May 30, 1990).

2 Main Findings

The most significant finding of the survey was that 70 per cent of Canadian establishments employing over 50 people were aware of significant literacy deficits affecting from 1 to more than 30 per cent of their workforce. While some firms were more aware of the problem than others, this single statistic indicates that literacy deficits are widespread in the workplace in Canada.

The researchers had expected that illiteracy rates reported by industry would be much lower than those found by the Statistics Canada literacy survey.[1] Three reasons motivated this belief:

- Illiterate workers are screened out by the recruitment process. It is to be expected that in many industries there will be a lower incidence of illiteracy among employed persons, especially in those companies with over 50 employees, which made up our survey sample.
- Companies are not always aware of illiteracy because employees often try to hide their trouble in this area. Because of the social stigma and the possible threat to job security, few workers will come forward to reveal a serious skills deficit, including illiteracy.
- Companies themselves will be reluctant to reveal any illiteracy problems.

However, the Conference Board survey showed not only a higher than expected awareness of illiteracy in the workplace, but also a frankness and openness in discussing the issue. The level of openness reflected considerable concern among both general managers and human resource executives over the possible effect illiteracy is having on the operations of their organizations. Many respondents were frank in admitting that they knew they had a problem, despite their inability to quantify it with any certainty.

Discovering Illiteracy in the Workplace

Illiteracy in the workplace is difficult to quantify because it is almost impossible to measure directly. Fear of reprisals, embarrassment and impracticality are the main impediments to direct measurement of illiteracy in the workplace.

A small proportion of employers (about 10 per cent) reported that they were aware of literacy problems because of self-reporting by employees seeking help. It goes without saying that these firms have created a climate of trust, which makes employees feel they can come for help without fear of negative consequences.

Most other organizations reported that they became aware of literacy deficits indirectly, through:

- the review or analysis of written material, reports, job records, log books, etc.;
- performance appraisals, interviews, applications, resumes;
- difficulties experienced with training and testing;
- slow work, inefficiencies, and inability to meet job requirements;
- difficulty in following written instructions, bulletins, manuals, directives; and
- quality checks, inspections, direct observations.

In summary, employers become aware of illiteracy only when it becomes a performance-related problem. This indicates that the problem is probably more widespread than is commonly known. It also suggests that few employers will have success in tackling illiteracy with a program that is based on self-reporting.

Difficulties Faced by Employers

Many companies indicated that literacy deficits among employees were now a significant impediment to attaining key strategic objectives (see Chart 4). As the rate of technological change increases, employers have to be able to alter production methods or change product lines rapidly. Very few readjustments of this type can now be introduced without significant training or retraining of large segments of the workforce, and literacy is a prerequisite to most kinds of training.

One major employer noted that 20 per cent of the company's total training budget was devoted to improving the reading and writing skills of employees so that production-related training could take place. In other words, each time a training program was introduced, time and money had also to be allotted to remedial courses in reading and writing.

This pressure on employers to provide both technical and literacy-related training is intense and widespread. Even relatively small employers have developed training programs that address

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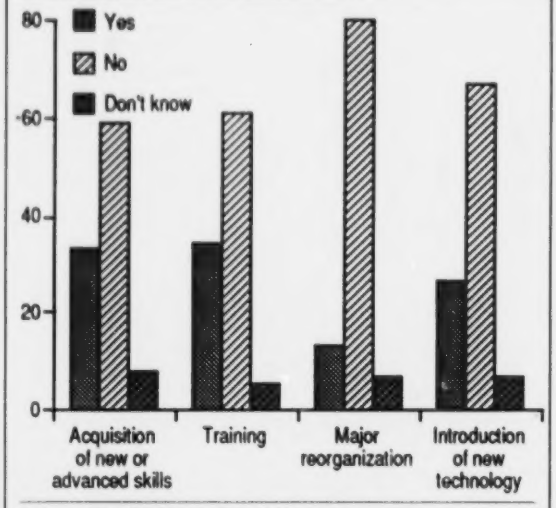
[1] Statistics Canada, *Survey of Literacy Skills Used in Daily Activities* (LSUDA), Preliminary Results, cat. # 11-001E (Ottawa: May 30, 1990)

Chart 4
Difficulties Faced by Employers with Functionally Illiterate Employees
(percentage of survey establishments)



Source: The Conference Board of Canada.

both technical skills and writing and numeracy skills. One example was SCRL Électrique Ltée, of Chomedey, Laval, Quebec, which completed its first two-year program of technical training in April 1990. Although it employs only 75 people, SCRL has availed itself of the services of the Commission de formation professionelle (CFP), a provincial agency, to put together a training program including basic literacy skills for both its technical people and its office staff.

Other organizations have used the strength of the formal educational system to equip their workforce with literacy skills at the same time as they pick up technical skills. Budd Canada Inc. has collaborated with the Waterloo County Board of Education to develop an upgrading program, which is entirely employee-driven. Although the program was originally devoted to training in English and mathematics, it has now been expanded to include topics such as computers and law.

The Board of Education provides the teachers and curriculum, and Budd provides the facilities for the sessions. Budd's basic skills initiative grew out of an employee involvement program aimed at preparing its workforce for the advent of new technology. Budd points to the increased facility of its workers with statistical process control as one example of the success of the program.

Problems Faced by Employees

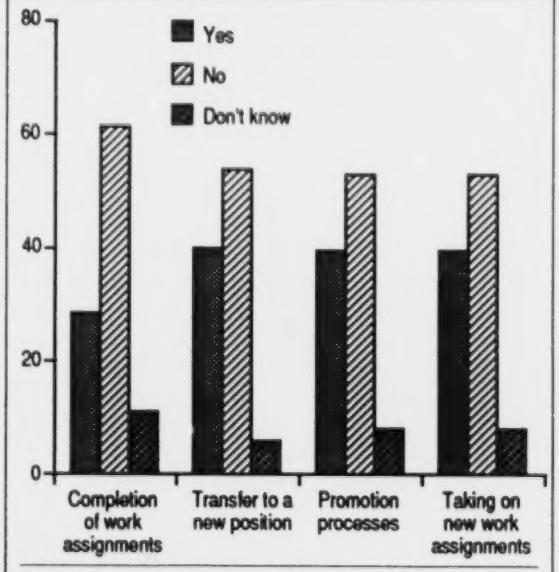
The problems associated with literacy deficits are also keenly felt by the employees themselves. Illiteracy affects not only their ability to carry out work-related assignments, but also their relations with their families and even their own feeling of self-worth.

Thirty-nine per cent of employers were aware of incidents of workers shying away from promotional opportunities in attempts to conceal problems or to avoid the embarrassment of exposure. For similar reasons, 40 per cent of employers had had similar experiences with employees who were reluctant to take on new work assignments that were open to them (see Chart 5).

Many employers felt, however, that it is difficult to completely document or quantify the extent of the problem. Examples were cited of workers who had flatly turned down jobs and even of one who, through fear of embarrassment, attempted suicide rather than move to a new factory. Most of the evidence, however, was second-hand.

Another source of information on literacy problems is the employees' union or association. The employer and the union often have a shared interest in upgrading the skills of the workforce,

Chart 5
Problems Faced by Functionally Illiterate Employees
(percentage of survey establishments)



Source: The Conference Board of Canada.

and the union, as the employees' representative, is sometimes in a position to know the extent of the problem.

Concerns expressed by workers experiencing difficulties in internal competitions were one of the reasons leading the City of Calgary to join with its four staff unions to create its Adult Learning Centre in January 1989. With funding from the federal government, the Adult Learning Centre offers an extensive educational program leading to the General Equivalency Diploma, which the city accepts as a Grade 12 equivalent.

The City of Calgary feels that the program has enhanced employee morale and has also improved the City's ability to deal with the changing workplace. The success of the program, according to the City, has been a result of good collaboration among employer, government and the unions.

Management and Production Issues

The lack of basic literacy skills had a significant impact on management and production issues for 30 per cent of respondents. Some report that the principal effect is slower work; others indicate that difficulty in understanding instructions can affect product or service quality or lead to deficiencies in productivity (see Chart 6).

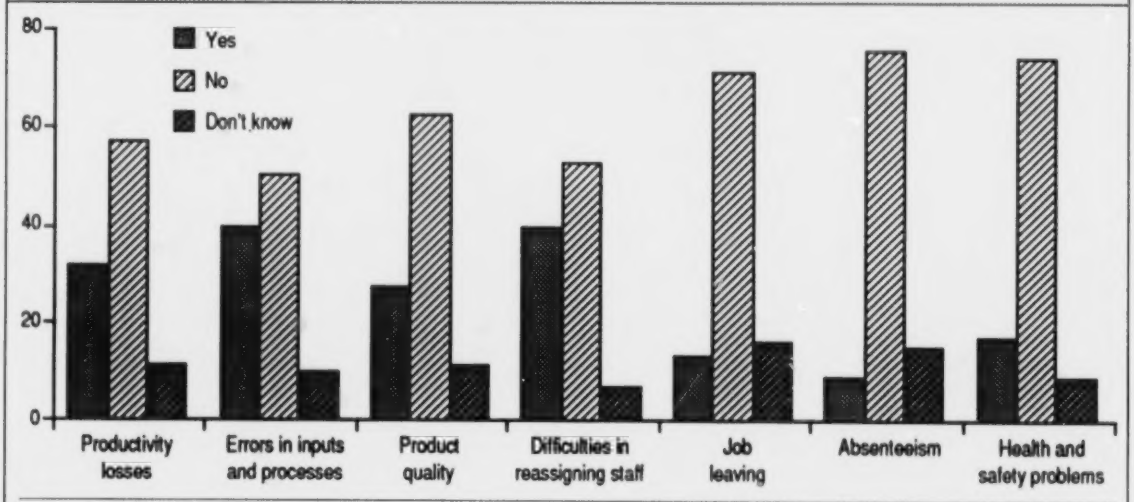
Twenty-seven per cent of respondents indicated that literacy deficits had shown up in difficulties experienced in quality control. With the increasing use of computers and other advanced technology in production, it becomes clear to management that workers need basic skills in order to use quality improvement techniques such as statistical process control.

A case in point was provided by the Campbell Soup Company. As the firm began moving from its traditional management approach to teamwork systems, literacy problems began to emerge. The new approach required employees to be able to read and write basic English. Some workers had only a Grade 6 or 7 education, and a number were unable to do so.

The problem became more apparent when Campbell Soup conducted an attitude survey of its employees in April 1989. Management was astounded to find that about 25 per cent of the workers were unable to fill in the survey questionnaire because of lack of basic reading and writing abilities.

While there is no information on the impact that a lack of basic reading and writing has had on the company's productivity, there is a strong feeling that problems in the maintenance, production and health and safety areas are, at least in part, related to this factor. Since plant workers have to work with written instructions, product labels and recipes, the obvious conclusion is that a lack of basic reading and writing skills has an adverse impact on productivity.

Chart 6
Impact of Illiteracy on Management and Production Issues
(percentage of survey establishments)



Source: The Conference Board of Canada.

With the growing use of teamwork and increasing reliance on computer technology at the plant, it has become clear to management at Campbell Soup that many workers need to have their skills upgraded. As a result, the firm is currently examining programs available through school boards and community colleges.

Other management and production issues discovered in the survey include health and safety, absenteeism, job leaving and difficulties in reassigning staff. Under the new WHMIS legislation governing hazardous materials in the workplace, employers are now responsible for ensuring that materials are well marked and that workers have taken appropriate training in the handling of hazardous materials. As a result, literacy deficits are now becoming an even more serious liability for the employer. In fact, 17 per cent of responding organizations indicated that health and safety were concerns related to illiteracy in the workforce (see Chart 6).

Extent of the Problem

The survey showed that 70 per cent of establishments know that they have functionally illiterate employees as a part of their workforce (see Chart 7). Understandably, the number of employees in this category varies significantly from one establishment to another.

While some firms provided data based on tests or actual head counts through previous analysis, a significant number of responses were based on estimates of varying accuracy.

It is important to note as well that there are undoubtedly a large number of "hidden" illiterate employees in the workforce. In those occupations where the level of employee literacy is not a key performance-related factor, companies may simply be unaware of any literacy deficits.

Finally, while survey respondents were given a standard definition of literacy, there is no guarantee that literacy is in fact interpreted in the same way by all respondents. On the contrary, it is reasonable to assume that some sectors, such as banking or computer services, would have more demanding expectations than others, such as forestry, fishing or mining.

Any estimate of the overall extent of illiteracy in the workforce must be interpreted with the preceding caveats in mind. Based on the survey responses, however, it would appear that the 70 per cent of firms reporting functionally illiterate workers feel that, on average, the problem affects about 10.7 per cent of their work force (see Chart 8).

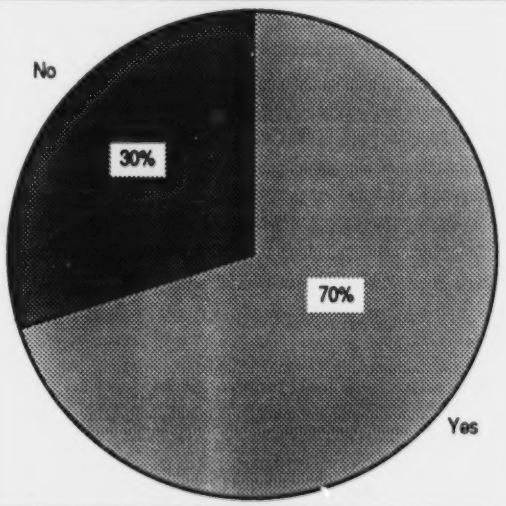
Even if the responses of those organizations that do not feel they have any illiterates in their workforce are included, we are still left with a residual of 7.5 per cent of the entire workforce who are thought to have serious skills shortages in the area of literacy.

Location of the Problem

Age

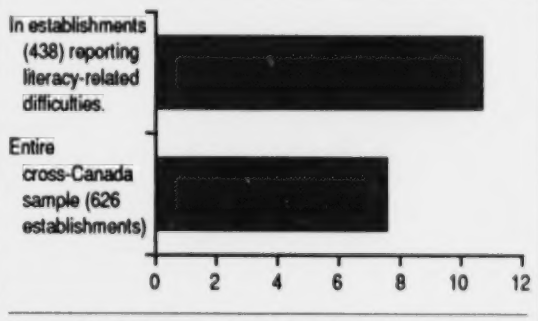
Functionally illiterate employees are found in significant numbers in all age categories, although the 35–54 age group predominates and seems to be

Chart 7
Establishments with Functional Illiteracy Problems



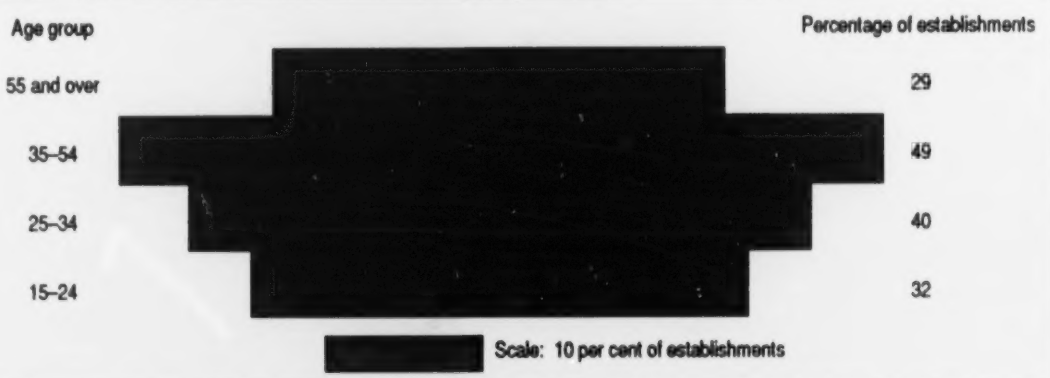
Source: The Conference Board of Canada.

Chart 8
Functionally Illiterate Employees in the Workforce
(percentage; companies with more than 50 employees)



Source: The Conference Board of Canada.

Chart 9
Establishments Reporting Functionally Illiterate Employees—by Age Group



Note: Respondents were asked to check as many age groups as apply.
Source: The Conference Board of Canada.

over-represented when compared with the age profile of the labour force (see Chart 9).

The Statistics Canada study showed quite clearly that literacy is closely linked to age—older Canadians are much more likely to be illiterate than younger ones. One possible explanation of the relatively high illiteracy of the 35–54-year olds in the workforce lies in the increasing skill levels required for employment and the higher recruitment standards that have been introduced over the last 10 to 15 years. Workers over age 54 are more likely to be in jobs that have always required a degree of literacy or perhaps have found themselves in occupations where a literacy deficit is not a big handicap.

Principal Language

In English Canada, more problems were noted with workers whose maternal language was English. In the province of Quebec, the situation was reversed. The reported incidence seemed to reflect the preponderance of one language group or the other in the workforce. There was no evidence that workforce illiteracy is more pronounced in one language group than in the other.

However, those workers whose maternal language was neither English nor French did have very high rates of literacy deficits. In fact, across the country, 27 per cent of employers indicated having problems with this category of employee, despite their much smaller presence in the general workforce.

A number of companies have introduced special programs to help overcome the problems associated with immigrant workers. One example was a program introduced at the Château Laurier Hotel in Ottawa. Among the 500 hotel staff are a large number of immigrants, and while many of these are very well educated, it was frequently found that they could not communicate adequately in either English or French.

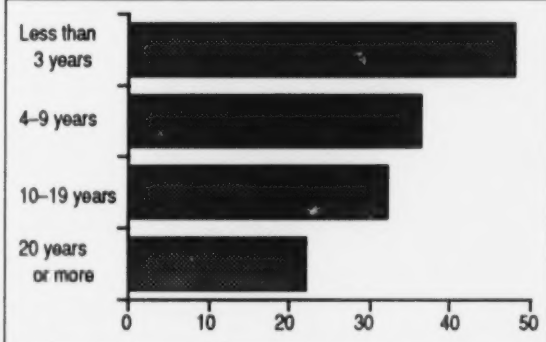
In collaboration with the Ontario Federation of Labour (OFL), the management of the hotel has introduced a literacy-training program called Basic Education for Skills Training (BEST), offering year-long classes in reading, writing, math and communication. The program, developed by the OFL, has funding from the Ontario Ministry of Skills Development. Courses take place on company premises, half on company time and half on employee time. A key feature of this program is that instruction is carried out by co-workers who have received special training.

Length of Employment

Employees lacking basic skills are found in significant numbers in all "length of employment" categories. However, those employed less than three years were more frequently cited in the survey than employees in any other category (see Chart 10). This may be a reflection of the numbers of immigrant workers whose language skills will be at their poorest during their first years in the country. Special programs may need to be developed to meet their needs.

BP Canada, a major corporation employing over 1,700 workers, provides an example. In some

Chart 10
Functionally Illiterate Employees—by Length of Employment with Company
(percentage of establishments)



Source: The Conference Board of Canada.

areas of the company, particularly in technical departments, there is a high percentage of recently arrived immigrant workers whose English language skills are still seriously deficient. In conjunction with the Alberta Vocational Centre, BP has developed a program called the Advanced Oral Communication Course, which has had much success in improving the communication skill levels of these workers.

On the other hand, a large number of long-service employees were also identified by the company as having literacy deficits. It would be reasonable to expect that employees who have survived 10 to 20 years in an organization without basic literacy skills have developed methods of compensating for their handicap in order to meet production requirements. It is when they are presented with major technological changes or the possibility of some promotional advancement that problems come to the fore.

This was part of the reason Brunswick Mining and Smelting Corporation Limited decided to introduce a basic skills training program at its smelting division in Belledune, New Brunswick. Largely French-speaking, the workforce is very stable, with little turnover, generations of family members having worked at the enterprise. The main non-office staff is unionized.

While current new hires require Grade 12 education to work in the plant, the older workers, some with 15 or more years of service but without proper basic skills training, face significantly reduced promotional opportunities. Accordingly, a basic literacy program is made available to workers through the company's employee assistance program. Directed by a joint union–management committee, the EAP guarantees confidentiality to those who seek assistance in basic skills upgrading. While the number of employees so trained is not large, the company feels that the program has had positive results because it enhances promotional opportunities among those who are interested in applying for management and supervisory positions.

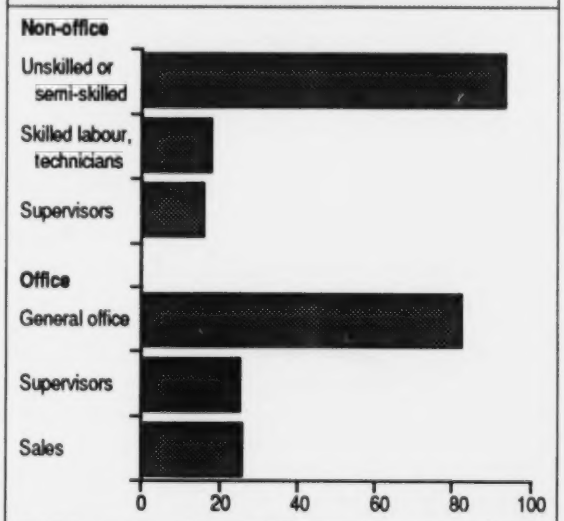
Categories of Employment

As expected, employees lacking basic skills are very often found in unskilled or semi-skilled positions; however, functionally illiterate employees are also found in significant numbers in general office and clerical areas. One surprising finding was the number of establishments reporting supervisory employees (both office and non-office) lacking basic literacy skills (see Chart 11).

The challenge of upgrading the literacy skills of supervisory employees is particularly challenging in an organization like Fishery Products International Limited (FPI) of St. John's, Newfoundland.

The largest private employer in Newfoundland, the fishery continues to attract significant numbers of workers who lack literacy and numeracy skills. Historically, experience and ability were the key elements for the selection of supervisory

Chart 11
Functionally Illiterate Employees—by Employment Category
(percentage of establishments reporting problems)



Source: The Conference Board of Canada.

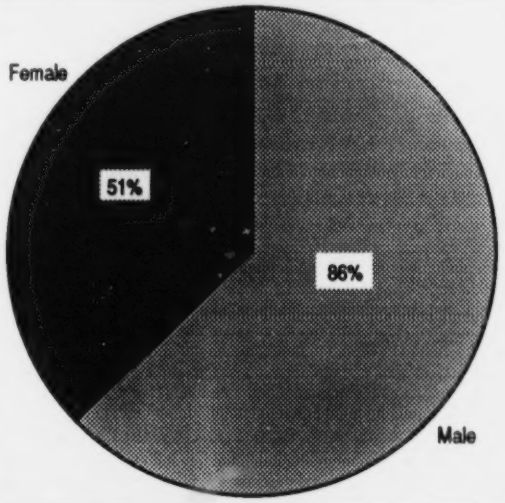
personnel from among the 8,000 employees working in FPI fish plants in Atlantic Canada.

As new technology is introduced into the fish packaging operation, it is increasingly important to have a higher degree of literacy in the whole workforce and, in particular, among the supervisory staff. As a result, FPI has entered into a co-operative venture with the Department of Career Development and Advanced Studies of the government of Newfoundland and Labrador and Eastern Community College. The objective of the program, called Adult Basic Literacy Education (ABLE), is to teach workers basic skills in literacy and numeracy. Project ABLE produced its first graduates in the spring of 1989, and FPI expects that the program will be continued in 1990.

Another company facing similar challenges is Abitibi-Price, the giant forest products company. With net sales of well over $3 billion in 1988, Abitibi employs 16,000 people in a variety of office and non-office positions.

Historically drawing on a labour pool characterized by high levels of illiteracy, Abitibi-Price has been involved in employee literacy programs for many years. In the early 1940s, in partnership with Frontier College, Abitibi sent educators to the company's remote woods camps in northern Ontario. Abitibi has also had its own program of operational support for the development of library/literacy resources in the company's core operating communities, such as Thunder Bay, Ontario, and Grand Falls, Newfoundland.

Chart 12
Functionally Illiterate Employees—by Gender
(percentage of establishments reporting problems)



Source: The Conference Board of Canada.

Gender

Eighty-six per cent of establishments report having male functionally illiterate employees, compared with only 51 per cent reporting female functionally illiterate employees. Since the composition of the Canadian work force is 57 per cent male and 43 per cent female,[2] it would appear that functional illiteracy exists in higher proportions in male employees than in female employees (see Chart 12).

The Statistics Canada literacy survey, however, found that illiteracy is equally distributed by gender in Canada. A possible explanation of the difference in findings of the two studies lies in the prevalence of women in office jobs, particularly in secretarial and clerical categories, that require functional literacy.

Human Resource Policies

Treatment Policies

While almost three-quarters of responding organizations indicated that they had some significant problems with illiteracy in their workforce, only 24 per cent had developed a systematic human resource policy or program to deal with them. Most of the remainder were not yet addressing the issue or were dealing with it piecemeal or on an ad hoc basis (see Chart 13).

Among firms reporting human resource policies in place,

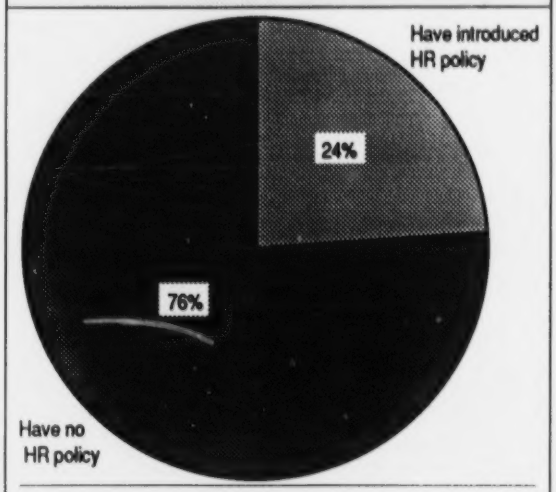
- 56 per cent provide in-house basic skills training;
- 44 per cent provide off-site basic skills training;
- 25 per cent provide second-language training; and
- 20 per cent have programs involving labour union participation, including some of the following features:
  - joint program development
  - joint program promotion
  - regular consultation and support
  - shop floor assistance
  - time sharing between employer and employee

In addition, respondents indicated that the following kinds of action have been taken on a case-by-case basis in response to individual situations:

- 49 per cent provide for the avoidance of changing work assignments;
- 23 per cent provide for reassignment to less skilled positions;

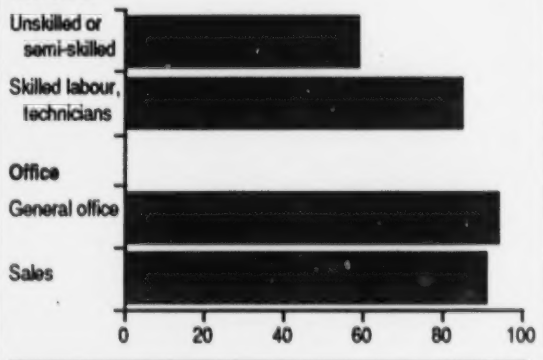
[1] Statistics Canada, *Labour Force Survey, Final 1989 Results*, cat. # 71001.

Chart 13
Respondents with a Human Resource Policy on Literacy



Source: The Conference Board of Canada.

Chart 14
Functional Literacy as a Condition of Employment when Recruiting
(percentage of establishments)*



*Based on 40 per cent response
Source: The Conference Board of Canada.

- 15 per cent provide personalized referrals;
- 15 per cent provide tuition/education assistance programs; and
- 8 per cent provide for the application of early retirement provisions.

Screening Policies

A large number of organizations have established basic literacy skills as a condition of employment when recruiting. Forty per cent of the respondents indicate that they carry out pre-employment testing that screens applicants for literacy and numeracy skills (see Chart 14).

One of the single most ominous signs regarding the level of functional illiteracy in the Canadian adult population is that respondents report screening out an average of 15 per cent of job applicants because of inadequate basic skills in literacy/numeracy. This figure is twice the 7.5 per cent rate reported by the survey respondents regarding their own workforce.

Because of the increasing importance of literacy in the workplace, a majority of respondents have raised their recruitment standards in the last two or three years or are planning such a change in the near future. A very small number (6 of the 626 reporting firms) indicated that they would actually be lowering their recruiting standards because of difficulties in attracting people.

Organizations also provided information on minimum educational requirements forming part of the recruitment policy at entry levels. In general, it was found that minimum educational standards increase with organization size. Survey results show that, depending on the category of employment, between 41 and 75 per cent of respondents have set high school graduation or some secondary school education as the minimum standard of educational attainment on hiring (see Table 1).

Many respondents have some discomfort with using school grade levels as a proxy for literacy and numeracy skills. In fact, 44 per cent believe that there is significant variation in skills for any given grade level. However, there is some inconsistency in the observations reported: some indicate that older workers have higher basic skill levels, while others feel higher skills are found in employees who have received their formal education more recently.

Some frustration was reflected in the respondents' comments on the variations in the quality of Grade 12 education in their surrounding area and across the country. A number of organizations perceive "considerable" differences among employees and applicants with the same nominal grade level. Finally, a number of firms do not believe that Grade 12 is sufficient evidence of the ability to read, write and perform basic math.

Table 1
Current Minimum Educational Requirements for Hiring Entry-Level Employees
(percentage of respondents, by level of education)

	College or technical certificate	High school (Gr. 12) graduation	High school (Gr. 9, 10 or 11)	Elem. Gr. 8	No min. specified	Total
Non-office environment						
Unskilled labour	0	23	31	5	41	100
Semi-skilled labour	3	46	24	4	23	100
Skilled labour (incl. technical employees)	48	34	7	1	10	100
Office environment						
General office, clerical	18	69	6	0	7	100
Sales	36	47	5	0	12	100

Note: The analysis of responses to this question on current minimum educational requirements shows that the larger the organization, the higher the minimum educational requirements for all categories of employment.
Source: The Conference Board of Canada.

3 Conclusion

This study has found that Canadian business is conscious of the existence of a considerable amount of functional illiteracy in the workplace. In most cases, these literacy deficits have come to the attention of business because of their impact on production, quality and productivity, in short, through their effect on competitiveness.

Two trends seem to be emerging from the research. In the first place, many companies have been moving in the last few years to deal with functional illiteracy in the workplace. Some have put human resource policies and programs in place to upgrade basic skills on a broad basis, while others have taken specific actions to deal with specific situations. There are many examples of significant successes.

However, even as those successes are being registered, the goal posts are moving down the field. As the rate of technological change increases, it will become ever more critical for employers to be able to retrain and redeploy their workforce with rapidity and ease. For that to happen, the general level of literacy in the workforce must increase.

A possible concern is flagged by those employers who indicated that they have raised their recruitment standards for precisely these reasons but who find that high school graduation does not ensure the literacy levels they need to operate their businesses successfully.

Therefore, while some progress has been made, and should be recognized, more progress will be required in years to come. Extensive co-operation between business, labour, education and government will be required if Canada is to have the quality of workforce it will need in order to compete into the next century.

Recent Research Publications

The Impact of Employee Illiteracy on Canadian Business, Report 58-90-E.†

Reaching for Success: Business and Education Working Together, Report 57-90-E.†

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Canadian Business Linkages with the Developing Countries, Compendium Report: Building Partnerships for Tomorrow, 1987, Report 26-87.

*A publication that elaborates on this research and provides additional data is available.

†Also available in French.

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The Conference Board of Canada
255 Smyth Road, Ottawa, Ontario K1H 8M7
Telephone: (613) 526-3280
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